Avco Corp./Textron Lycoming Division, a wholly owned subsidiary of Textron, Inc. *and* International Union, United Automobile, Aerospace and Agricultural Implement Workers of America, UAW, AFL–CIO, Petitioner. Case 34–RC–1061

June 2, 1994

DECISION ON REVIEW AND ORDER

BY CHAIRMAN GOULD AND MEMBERS STEPHENS AND DEVANEY

On March 31, 1992, the Regional Director for Region 34 issued a Decision and Direction of Election in which he, among other things, included in the unit 11 categories of engineers, who he concluded did not have professional status. Thereafter, in accordance with Section 102.67 of the National Labor Relations Board Rules and Regulations, the Petitioner filed a timely request for review of the Regional Director's decision, asserting that the Regional Director erred in finding that 11 categories of engineers lacked professional status. The Employer filed a timely opposition to the request for review.

By Order dated May 11, 1992, the Board granted the Petitioner's request for review on the issue of the professional status of several engineers.[1]

The National Labor Relations Board has delegated its authority in this proceeding to a three-member panel.

The Board has considered the entire record in this case, including the parties' briefs on review, and concludes, as explicated below, that the 11 disputed categories of engineers have professional status within the meaning of the Act.

Background

The Petitioner seeks to represent a residual unit of between 850 and 950 unrepresented clerical and technical employees at the Employer's Stratford, Connecticut plant, where the Employer develops and manufactures gas turbine engines for tanks, helicopters, and airplanes. The Petitioner sought to exclude various engineers on the grounds that they have professional status under the Act. The Regional Director found that 11 categories of engineers did not have professional status.

[1] The Regional Director also included in the unit field service representatives who were stationed outside the United States. The Petitioner requested review of this issue as well, and the Board granted that request for review. After due consideration, the Board has concluded that it will not address the issue of the inclusion of employees working overseas unless the votes of the affected employees are determinative after the Regional Director opens and counts the other ballots.

Professional Status of 11 Categories of Engineers

The Petitioner disputes the Regional Director's findings that 11 categories of engineers did not qualify as professionals within the meaning of the Act. Section 2(12) of the Act defines a ''professional employee'' as:

> (a) any employee engaged in work (i) predominantly intellectual and varied in character as opposed to routine mental, manual, mechanical, or physical work; (ii) involving the consistent exercise of discretion and judgment in its performance; (iii) of such a character that the output produced or the result accomplished cannot be standardized in relation to a given period of time; (iv) requiring knowledge of an advanced type in a field of science or learning customarily acquired by a prolonged course of specialized intellectual instruction and study in an institution of higher learning or a hospital, as distinguished from a general academic education or from an apprenticeship or from training in the performance of routine mental, manual, or physical processes; or
>
> (b) any employee, who (i) has completed the courses of specialized intellectual instruction and study described in clause (iv) of paragraph (a), and (ii) is performing related work under the supervision of a professional person to qualify himself to become a professional employee as defined in paragraph (a).

In *Western Electric Co.*, 126 NLRB 1346 (1960), the Board developed a test for determining professional status that remains valid. The Board concluded that Section 2(12)(a) ''defines a professional employee in terms of the work he performs,'' not in terms of individual qualifications. Id. at 1348. Thus, if an employee performs work of a predominantly intellectual and varied character, involving the consistent exercise of discretion and judgment, and requiring knowledge of an advanced type in a field of science or learning customarily acquired by a prolonged course of specialized intellectual instruction and study in an institution of higher learning or a hospital, then that employee qualifies as a professional.

In addition, although educational background does not control, the Board examines educational background ''for the purpose of deciding whether the work of the group satisfies the 'knowledge of an advanced type' requirement of Section 2(12)(a).'' Id. at 1348–1349 and fn. 6, quoting Sec. 2(12)(b). If a group of employees consists primarily of individuals with professional degrees, the Board may presume that the work requires ''knowledge of an advanced type.'' Id. at 1349. Conversely, if few in the group possess the appropriate degree, it logically follows that the work does not require the use of advanced knowledge. Id.;

see also *Binghamton Press Co*., 226 NLRB 808 (1976). In applying the ''actual work performed'' test in conjunction with the presumption that a group of individuals with degrees performs work that requires knowledge of an advanced type, the Board has consistently found that employees with professional engineering degrees working in specialized fields of engineering qualify as professionals.[2]

By contrast, in those cases where the Board has found engineers not to qualify as professionals, they generally performed routine work and in virtually every case did not have college engineering degrees.[3] The cases cited by the Employer in support of the Regional Director's findings fall into this category and do not support its contention that the engineers at issue here do not qualify as professionals. In *A.A. Matthews Associates*, 200 NLRB 250 (1972), for example, the Board held that ''engineer-inspectors'' who held engineering degrees were not professionals because the major portion of their work involved inspection of construction work similar to that performed by admittedly nonprofessional employees, and even assuming that they exercised some discretion, they did not do so consistently. Id. at 251. Similarly, in *Design Service Co*., 148 NLRB 1050 (1964), the Board found 151 ''engineers'' to be technical employees, where only 24 had engineering degrees and none performed work consistently requiring the exercise of discretion and judgment predominantly intellectual in character, but rather merely wrote specifications for necessary material and equipment after studying blueprints submitted by the employer. Id. at 1051–1052. In contrast to these cases, the vast majority of the engineers in the instant case have bachelor's degrees in specialized fields of engineering and all work in jobs requiring the consistent exercise of discretion and judgment in nonstandardized, predominantly intellectual work. Applying the relevant standard here, we conclude that the engineers are professionals within the meaning of the Act, and therefore should be excluded from the unit. The relevant facts are as follows:

A. *Engineers I and II; Rotational Engineers I and II; Test Engineers*: These engineers work at various stages of the development and manufacturing of the Employer's gas turbine engines for tanks, helicopters, and airplanes. A gas turbine engine takes approximately 10 years to develop from its inception to the final product. Each engine takes thousands of hours to machine and assemble, at a cost of $200,000 or more.

The Employer submitted a November 29, 1984 memorandum addressed to ''All engineering exempt employees.'' The memorandum announced the creation of a ''Dual Ladder of Advancement'' for technical professionals in the engineering department. It added a ''Technical Professional Career Ladder'' to engineering's already existing ''Technical Managerial Ladder.'' It shows a professional career progression from engineer I at labor grade 26, to engineer II at labor grade 28, to a [function] engineer[4] at labor grade 30, to senior [function] engineer at labor grade 32. After this point, an engineer can continue as a professional or branch into management. If the employee elects to continue on a professional career path, he or she would next become a staff engineer at labor grade 33, and then a principal engineer at labor grade 34. If the employee elects to move into management, he or she would become a section/project manager at labor grade 32 or 33, and then a department manager at labor grade 33 or 34. The memorandum stated that ''The Dual Ladder will further strengthen the Division's commitment to technical excellence by providing greater opportunities for personal development and advancement to our Engineering Professionals and solidifying the organizational base of our Engineering function, which is vital to future stability and success of the Division.''

[2] See, e.g., *Utah Power & Light Co*., 258 NLRB 1059, 1060 (1981) (engineers, most with B.S. in engineering and many with M.S. in specialized field of engineering assigned to highly complex and technical projects); *Union Electric Co*., 217 NLRB 666 (1975) (experienced graduate engineers whose work required the use of mathematical techniques involving statistics and calculus and background information and understanding learned in their engineering education qualified as professionals; as well as an engineer who recently obtained his bachelor's degree in engineering but who had not yet in the few weeks of his employment had an opportunity to apply his technical knowledge, where the employer had hired him to act in the capacity of a professional); *Ryan Aeronautical Co*., 132 NLRB 1160 (1961) (electronics engineers with B.S. and minimum of 3 years' related work; mechanical design engineer with 17 years' experience; test engineers with experience equivalent to college degree); *Westinghouse Electric Corp*., 89 NLRB 8 (1950) (engineers, most of whom had degrees, and junior engineers with degrees working under full engineers and expected to progress to higher engineering classifications); *Westinghouse Electric Corp*., 80 NLRB 591 (1948) (production engineers, most of whom had degrees and the remainder had acquired comparable skills thru experience); *Solar Mfg. Corp*., 80 NLRB 1358 (1948) (degreed junior engineers working under general supervision of senior engineers).

[3] See, e.g., *Aeronca, Inc*., 221 NLRB 326 (1975) (quality control engineer with 2 years of college); *General Dynamics*, 213 NLRB 851 (1974) (the case makes no mention of the educational standards of employees, but none of the ''engineering'' related positions discussed, and held not to qualify as professional, bears any resemblance to the positions in the instant case); *Loral Electronics*, 200 NLRB 1019 (1972) (engineers with professional degrees working under supervision of professionals found to be professionals; employees without degrees found not to be professionals; Board noted that in the event one of the degree-less employees who performed engineering duties earned his degree, ''he may now be a professional employee if he satisfies the other requirements of 2(12) of the Act''); *F. W. Sickles Co*., 81 NLRB 390 (1949) (manufacturing methods engineers with high school diplomas).

[4] The Employer designates the titles of those engineers who have progressed beyond the engineer I and II and rotational engineer I and II levels according to the area in which they work. For example, the test engineers work in test engineering; development engineers work in the research and development department.

The Employer uses the generic titles ''Engineer I and II'' and ''Rotational Engineer I and II'' for its entry level engineers, who work in various departments throughout the organization. The Employer employs about five or six engineer Is at labor grade 26, who work in various departments, including the test area, materials laboratory, and the mechanical design department. They support and help the experienced engineers and the technicians.

The Employer employs about 11 or 12 rotational engineer Is at labor grade 26. For all practical purposes, rotational engineer Is perform the same function as engineer Is, except that engineers stay with one type of engineering task, while rotational engineers rotate through various complimentary departments every 6 months for a 2-year period in order to develop a broader expertise in a particular area. The particular learning path a rotational engineer might take depends on the needs of the Employer. For example, the mechanical design department might ask for a rotational engineer, and that rotational engineer would train to become a design engineer.

The Employer has an internal posting system for jobs, and technical personnel may apply for engineering jobs if they have developed the necessary skills and experience. Not all technicians can qualify as engineers or rotational engineers. The Employer and Petitioner submitted various examples of job postings as exhibits, which show that the engineer I and rotational engineer I positions require a bachelor's degree in a specialized field of engineering, depending on the type of engineering position available, and 0 to 3 years of experience. For example, a posting for a rotational engineer I position in the weights and measurements department listed the minimum qualifications as a bachelor of science in Mechanical or Aeronautical Engineering, and described the job responsibilities as:

> Performs under relatively close direction of the department Director on a variety of specific professional Engineering tasks of an analysis, design or test nature in specialized Engineering fields. Applies theoretical knowledge and Engineering techniques to the solution of basic analytical Engineering problems assigned. Prepares and completes the design of components or portions of moderately complex functional systems working from overall operational, space, functional and similar design requirements.

After about 3 to 5 years of experience, engineer Is become engineer IIs, at labor grade 28. The Employer employs about 80 engineer IIs, who perform slightly more complicated and intricate tasks than engineer Is. They attend more meetings and write more reports.

After still more experience, an engineer II will advance to a labor grade 30 engineer position with an engineering function in his or her title; for example, if the engineer II developed experience in the research and development department, he or she would become a development engineer; if the experience occurred in the test area, he or she would become a test engineer. The Regional Director found, and neither party contested, that most development engineers have previous experience as engineers or rotational engineers, and that all development engineers qualify as professionals within the meaning of the Act. A job posting for an engineer II in the materials technologies laboratory required a minimum of a bachelor of science degree in Metallurgical/Materials Engineering or the equivalent with 2 to 3 years of experience, and listed desirable qualifications as a bachelor's degree with 4 to 5 years' experience in materials research or a masters degree with 2 to 3 years' experience, knowledge of superalloys including structure-property relationships, and good communication skills, verbal and written. The posting described the job responsibilities as:

> Conduct metallurgical analysis and oversee development programs on advanced materials. Correlate results with material processing and heat treatment. Communicate findings through oral presentations and written reports.

The Employer employs about 15 test engineers. Like development engineers, test engineers fall into labor grade 30. Test engineers work with engineer Is and IIs and test technicians. Each test engineer gets assigned a particular engine and performs structural tests on the entire engine, as opposed to testing a small part of an engine, a function performed by structural engineers. The Regional Director found, and neither party disagreed, that structural engineers, who also fall into labor grade 30, qualify as professionals within the meaning of the Act. Test engineers write test reports based on data collected from readings from test panels. These reports describe the test conditions, the variables, problems that might have developed, and any unusual occurrences. Test engineers share these reports with other departments involved in developing an engine and with the customer. An internal job posting for a test engineering position shows that the position requires an engineering degree in either manufacturing or aerospace engineering, plus 5 to 8 years of experience, or the equivalent, and it describes the job responsibilities as:

> Plan and execute full engine testing required to acquire data from prototype, developmental, production, or field return engines. Provide accurate and complete test results of the engine testing to the Engineering community as required. Reduce date, evaluate and present test results in the form of resumes, reports or oral presentations. Supervise all phases of an engine test program to insure timely and safe execution. Occasional foreign and

domestic travel. Occasional necessity to rotate shifts.

B. *Value Engineers I and II*: The Employer currently employs five value engineers I and II, at labor grades 28 and 30, respectively, most at the II level. They must have a bachelor's or master's degree in engineering and from 3 to 5 years of experience. All but one has a bachelor's degree, and that employee had a number of years of experience in value engineering with another company which the Employer considered equal to a degree. At this time that employee has enrolled in a university to complete his degree requirements. Value engineers work in the purchasing department, and report to the manager of purchasing value engineering, who in turn reports to the director of purchasing and materials.

Value engineers work directly with the Employer's buyers and suppliers. Each value engineer has a project and must prepare at least a monthly report updating actions taken to achieve the project's goals. They use their expertise and training to evaluate the production process used by a supplier in order to help make the process more efficient and cost effective. Value engineers interface with the engineering department in order to evaluate the manufacturing process. They use their discretion in requesting information or assistance from other departments. For the first few months of their employment, they receive extensive training; subsequently, they stay current on the state of the art technology by visiting suppliers. A job posting for a value engineer I position in the materials department listed the minimum education requirement as a bachelor's degree in engineering, preferably in electrical manufacturing, materials, mechanical, or aerospace. The posting described the job's primary function as:

> evaluating and improving supplier manufacturing processes and purchas[ing] part designs to achieve high quality, cost reduced parts. Requires negotiating, interfacing and providing creative alternatives to various Textron engineering disciplines for incorporation of value engineering proposals.

A job posting for a value engineer II required a bachelor's degree in manufacturing engineering plus 5 years' experience in manufacturing engineering and described the job's principal responsibilities as:

> Determine that product designs are in consonance with vendor ability to manufacture. Review and analyze all engineering drawings, engineering changes and specifications prior to release. Interface and negotiate with design engineering and all relevant manufacturing departments to achieve design-manufacturing compatibility. Provide design alternatives with performance requirements to facilitate cost effective manufacturing. Participate in problem solving studies, cost reduction and value engineering activities, department studies and/or cost analysis as considered necessary relative to product, new or existing. Coordinate, as necessary, with all appropriate activities; such as, Adv. Mfg. Tech., Process Engr., Material Control, Configuration Mfg. Engr., and all other disciplines necessary to assure compatibility with factory planning. Oversee design matters influencing engineering and manufacturing to insure that long term best interests of the business are served. Maintain close liaison with latest state-of-the-art manufacturing techniques and the application to in-house cost effective producibility studies and problem areas.

C. *Product Quality Engineers I, II, and III*: The quality assurance department has the responsibility of ensuring that Textron's outgoing product quality level fully meets the customer's expectations and complies with all structural contractual requirements. The Employer employs 1 product quality engineer I at labor grades 26, 7 product quality engineers II at labor grade 28, and 20 product quality engineers III at labor grade 30. They work throughout the facility.

The entry level product quality engineer I position requires a bachelor's degree in engineering and generally the Employer hires them directly out of college. The sole product quality engineer I works in department 106Q and, despite the department's focus on analyzing the quality of the Employer's products, she focuses on the quality of supplier's products. She maintains an automated data base of product certifications from about 850 suppliers and keeps track of whether her superiors have qualified or disqualified a particular supplier from supplying parts. She makes no recommendations to managers, but rather merely enters data into the database, keeps track of it, and responds to internal inquiries regarding the qualifications of suppliers to perform a certain process. The parties stipulated at the hearing that, based on the work she performs, this employee is a clerical or technical employee and properly included in the unit.

The tasks performed by product quality engineer IIs and IIIs differ only in experience levels. They perform some administrative work and some hands-on work in the manufacturing process. They receive information from various internal sources and use that information while working hands-on in the manufacturing process to determine the root cause of a problem and then recommend and implement corrective action. This involves looking at all the variables in the manufacturing process—they check the tooling to make sure that it conforms to blueprint; check the computer tape to make sure of the accuracy of the tape program that governs the machinery; and make sure that the machine operator follows the process sheet. In some

cases, they will determine that the process cannot conform to blueprint and will make a recommendation to engineering to change the blueprint or to processing engineering to change the process in order to yield the quality product desired by the Employer. A job posting for a product quality engineer II position listed the minimum education and experience required as a bachelor's degree in engineering and 2 to 5 years in quality and/or manufacturing engineering. It listed the principal responsibilities as:

> diagnosis of chronic quality problems in assigned area through collection and analysis of required quality data. Responsible for assuring the continuous adequacy of the Quality Plan and its application by the manufacturing function to produce acceptable product quality.

A job posting for a product quality engineer III position listed the minimum education and experience as a bachelor's degree in engineering and 5 years' experience in quality and/or manufacturing engineering. It listed the same principal responsibilities as the posting for the level II position.

D. *Plant Engineer II*: The Employer utilizes six plant engineer IIs. The Employer employs no plant engineer Is and has no plans to hire any. Their work involves architectural, civil, electrical and/or mechanical engineering associated with buildings and equipment. They must have at least an associate's degree in architectural, civil, electrical, or mechanical engineering, and 2 to 4 years of experience in plant engineering, and preferably a bachelor's degree. All but one of the seven plant engineer IIs have engineering degrees and most have 4-year degrees. They have overall responsibility for all the plant's utilities, such as gas, air, water, and electricity. In the event of building a new facility, they would determine the needed specifications for the proper installation gas, air, water, and electricity; they would have the responsibility of creating blueprints of the floorplan showing what size equipment to use and where to install it. In the purchase of new equipment, they would determine that the equipment's specifications met all proper local, state, and Federal codes and that it would meet the proper specifications hookup for electrical, gas, or air. If, for example, a building needed a new air conditioner installed on the roof, they would determine the size of air conditioner needed for the building's volume and would work with the installer to evaluate how much weight the roof could handle and where to place the unit. In the event of needed repairs, such as a water main break, they would investigate the problem, determine the steps necessary to solve it, and notify the proper personnel either within or outside the company. If an outside contractor made repairs to a roof, the plant engineer would determine the roof's load carrying capabilities. On a day-to-day basis they work with the company's maintenance people, with outside trades people, and with the Army Corps of Engineers. The plant engineers do no hands-on work, but rather advise the maintenance and trades people in the performance of their tasks. A job posting for a plant engineer II position listed the minimum education and experience requirements as a college degree in engineering with special emphasis on plant engineering and 2 to 4 years' experience. It described the job's primary function as:

> Conduct complex and specialized Facility (plant) Engineering assignments involved in the maintenance and alteration of structures, facilities and utilities.

Conclusion

Based on the foregoing and the record as a whole, we conclude, contrary to the Regional Director, that all the engineers under consideration qualify as professionals within the meaning of the Act. The majority of these engineers have at least bachelor's degrees in specialized fields of engineering, which raises a presumption that they perform work requiring ''knowledge of an advanced type.'' *Western Electric Co.*, 126 NLRB 1346, 1349 (1960). The evidence supports a finding that they perform work requiring ''knowledge of an advanced type.'' For example, the the engineers I and II, rotational engineers I and II, and test engineers apply ''theoretical knowledge'' to the ''solution of basic analytical Engineering problems,'' and prepare and complete ''the design of components or portions of moderately complex functional systems.'' Moreover, there was testimony that these entry level engineers work on a career ladder which will eventually lead them, assuming that they qualify, to more senior ''function'' engineer positions, and the Employer's November 29, 1984 ''Dual Ladder of Advancement'' memorandum confirms this testimony. We have held that junior engineers with degrees working under full engineers and expected to progress to higher engineering classifications qualify as professionals. *Union Electric Co.*, 217 NLRB 666 (1975); *Westinghouse Electric Corp.*, 89 NLRB 8 (1950); *Solar Mfg. Corp.*, 80 NLRB 1358 (1948). Thus we find that the engineers I and II and rotational engineers I and II qualify as professionals within the meaning of the Act.

As part of this career ladder, some entry level engineers may become test engineers, one of the ''function'' engineer positions described by the Employer and by the Employer's 1984 memorandum. It follows that the test engineers qualify as professionals. The description of their work developed in the record also supports this conclusion. Each test engineer tests an entire engine of such complexity that it takes approximately 10 years to develop from its inception to com-

pletion, requires thousands of hours to machine and assemble, and costs $200,000 or more. The parties do not dispute the professional status of structural engineers and the record shows that test engineers perform tests analogous to those performed by structural engineers and have the same grade level in the Employer's career ladder.

The value engineers are similarly situated. In addition to their degrees, they must have sufficient expertise to understand, evaluate, and improve the manufacturing process of the Employer's suppliers. The parts they are responsible for must meet the demanding specifications of the Employer's gas turbine engines which take years to design and thousands of hours to machine and assemble. They must review and analyze engineering drawings, provide departments, and oversee design matters influencing engineering and manufacturing. We conclude that these engineers qualify as professionals within the meaning of the Act.

The product quality engineers essentially perform the same work as value engineers, but rather than examining the products of suppliers, they examine those of the Employer. They must have sufficient expertise to understand, evaluate, and improve the manufacturing process of the Employer's products. As in the case of the value engineers, they must evaluate the manufacturing process, examine blueprints, and suggest changes in order to improve the quality and reduce the cost of parts which must meet the demanding specifications of the Employer's gas turbine engines. We conclude that the product quality engineers II and III qualify as professionals within the meaning of the Act. The parties stipulated that the sole product quality engineer I does not so qualify, but if her work assignment changes so that she performs work similar to other product quality engineers, she may then qualify as a professional.

Finally, the plant engineer IIs qualify as professionals here. Unlike the other engineers discussed above, these engineers do not work directly with either the Employer's gas turbine engines or with the suppliers' parts. They do, however, perform primarily intellectual work in the construction and maintenance of the Employer's facilities. The record shows that their work varies over a wide range—from coping with physical disasters such as water main breaks, to analyzing the electrical, gas, and air conditioning needs of a new building, to calculating the stress capacity of a roof, and advising trades people in the performance of their tasks. They do no manual work. We conclude that these engineers also qualify as professionals within the meaning of the Act.

Accordingly, we exclude the contested engineers from the unit as professionals.

ORDER

We remand this proceeding to the Regional Director for proceedings consistent with this decision, including the opening and counting of the impounded ballots, and issuance of the appropriate certification.